

REMARKS

The Office Action dated March 24, 2008, has been received and reviewed.

Claims 23-27 and 29-64 are currently pending in the above-referenced application. Of these, claims 36-39 and 52 have been withdrawn from consideration, while claims 23-27, 29-35, 40-51, and 53-64 have been considered and stand rejected. New claim 70 has been added.

Reconsideration of the above-referenced application is respectfully requested.

Rejections under 35 U.S.C. § 112, Second Paragraph

Independent claim 45 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses this rejection, as hereinafter set forth.

It is respectfully submitted that one of ordinary skill in the art would readily understand the meanings of the phrases “setting a back side of a second semiconductor device against... discrete conductive elements,” “without adhesive material present on the active surface of the first semiconductor device...,” and “such that the second semiconductor device is entirely supported by the at least some discrete conductive elements.” Accordingly, it is respectfully submitted that the language recited in independent claim 45 would be definite to one of ordinary skill in the art, and that this claim, therefore, complies with the definiteness requirement of the second paragraph of 35 U.S.C. § 112.

Withdrawal of the 35 U.S.C. § 112, second paragraph, rejections of claims 23 and 45 is respectfully requested, as is the allowance of both of these claims.

Rejections under 35 U.S.C. § 102

Claims 23, 24, 29, 30, 33, 40, 45, 46, 49, 50, 53, 59 and 61-64 stand rejected under 35 U.S.C. § 102(e) for being drawn to subject matter that is allegedly anticipated by the subject matter described in U.S. Patent 6,400,007 to Wu et al. (hereinafter “Wu”).

A claim is anticipated only if each and every element, as set forth in the claim, is found,

either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 23 recites, among other things, “securing the first semiconductor device to a substrate with adhesive material” and “introducing adhesive material between the first semiconductor device and the second semiconductor device. Amended independent claim 45 recites, among other things, “setting a back side of a second semiconductor device against... discrete conductive elements... without adhesive material present over the active surface of the first semiconductor device.”

Wu does not expressly or inherently describe, or anticipate, each and every element of independent claim 23. Rather, the adhered glue layer 30 in Wu (and the subsequently formed overflow glue 50 which is an extension or overflow of adhered glue layer 30) is applied before the second semiconductor chip is secured over the first semiconductor chip, as seen in FIG. 3 of Wu. Claim 1, however, recites “introducing a second adhesive material between the first semiconductor device and the second semiconductor device.” Applicants submit that the overflow glue 50 cannot be introduced between the first and second semiconductor chip in Wu, because the overflow glue 50 is applied before the second semiconductor chip is secured to the first semiconductor chip.

Additionally, Wu does not expressly or inherently describe, or anticipate, each and every element of amended independent claim 45. The Office indicates that “it is understood that there is no adhesive material present over the active surface of the first semiconductor device until the adhesive material is introduced to stack the second semiconductor device over the first semiconductor device.” *Office Action* mailed March 24, 2008, page 5. However, Applicants respectfully disagree with this assertion. FIG. 3 of Wu shows that the adhered glue layer 30 and the overflow glue 50 on the active surface of the first semiconductor chip 28 are present *before* the second semiconductor chip is stacked on top of the first semiconductor chip. Wu specifically states that “while upper semiconductor chip 34 is stacked above lower semiconductor chip 28 **by adhered glue 50**” (emphasis added). *Wu*, col. 3, lines 38-39. Therefore, the adhered glue 50 is

already present before semiconductor chip 34 is stacked on top of semiconductor chip 28. Furthermore, the second semiconductor chip is supported or stacked “by adhered glue 50.” However, claim 45 recites that “**without adhesive material present over the active surface of the first semiconductor device such that the second semiconductor device is entirely supported by the at least some discrete conductive elements.**”

It is, therefore, respectfully submitted that, under 35 U.S.C. § 102(e), independent claims 23 and 45 are both drawn to subject matter that is allowable over the subject matter described in Wu.

Each of claims 24, 29, 30, 33, and 40 is allowable, among other reasons, for depending either directly or indirectly from claim 23, which is allowable.

Each of claims 46, 49, 50, 53, 59, and 61-64 is allowable, among other reasons, for depending either directly or indirectly from claim 45, which is allowable.

In view of the foregoing, it is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 23, 24, 29, 30, 33, 40, 45, 46, 49, 50, 53, 59, and 61-64 be withdrawn, and that each of these claims be allowed.

Rejections under 35 U.S.C. § 103(a)

Claims 25-27, 31, 32, 34, 35, 41-44, 47, 48, 51, 54-58, and 60 stand rejected under 35 U.S.C. § 103(a).

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800

F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant's disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

Wu in View of Lee

Claims 25, 26, 31, 34, 35, 41-44, 47, 51, 54-58, and 60 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter that is assertedly unpatentable over the subject matter taught in Wu, in view of teachings from U.S. Patent 6,388,313 to Lee et al. (hereinafter "Lee").

Claims 25, 26, 31, 34, 35, and 41-44 are each allowable, among other reasons, for depending indirectly from claim 23, which is allowable.

Wu in View of Shim

Claims 27, 32 and 48 stand rejected under 35 U.S.C. § 103(a) for being directed to subject matter that is purportedly unpatentable over the teachings of Wu, in view of teachings from U.S. Patent 6,531,784 to Shim et al. (hereinafter "Shim").

Claims 27 and 32 are both allowable, among other reasons, for depending indirectly from claim 23, which is allowable.

Claim 48 is allowable, among other reasons, for depending indirectly from claim 45, which is allowable.

New Claim

New claim 70 is supported by the as-filed specification and drawings and does not add any new matter to the application. Further, new claim 36 does not raise new issues or requires a further search. Support for new claim 70 may be found in the Specification at, for example, paragraphs [0053] and [0054].

ELECTION OF SPECIES REQUIREMENT

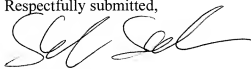
It is respectfully submitted that independent claims 23 and 45 remain generic to all of the species of invention that were identified in the Election of Species Requirement in the above-referenced application. In view of the allowability of these claims, claims 36-39 and 52, which have been withdrawn from consideration, should also be considered and allowed.

M.P.E.P. § 806.04(d).

CONCLUSION

It is respectfully submitted that each of claims 23-27, 29-64, and 70 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Steffen Soller', written in a cursive style.

Steffen Soller
Registration No. 62,497
Attorney for Applicant
TRASKBRITT, P.C.
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: June 24, 2008
BGP:SS/dlm:ec